

BRIVAL FK

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1 Product identifier:** BRIVAL FK
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
 Relevant uses: Bactericide . For professional use only.
 Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Details of the supplier of the safety data sheet:** Detergentes y Desinfectantes, S.A.
 Polígono Industrial Partida Alameda, parcela B
 46721 Potries - Valencia - Spain
 Phone.: +34962800718 -
 Fax: +34962899379
 dydsa@dydsa.com
 www.dydsa.com
- 1.4 Emergency telephone number:** 915 620 420

SECTION 2: HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or mixture:**
CLP Regulation (EC) nº 1272/2008:
 Classification of this product has been carried out in accordance with CLP Regulation (EC) nº 1272/2008.
 Aquatic Chronic 1: Hazardous to the aquatic environment, long-term hazard, Category 1, H410
 Eye Irrit. 2: Eye irritation, Category 2, H319
 Skin Irrit. 2: Skin irritation, Category 2, H315
- 2.2 Label elements:**
CLP Regulation (EC) nº 1272/2008:
Warning

Hazard statements:
 Aquatic Chronic 1: H410 - Very toxic to aquatic life with long lasting effects
 Eye Irrit. 2: H319 - Causes serious eye irritation
 Skin Irrit. 2: H315 - Causes skin irritation
Precautionary statements:
 P102: Keep out of reach of children
 P273: Avoid release to the environment
 P280: Wear protective gloves/protective clothing/eye protection/face protection
 P391: Collect spillage
 P501: Dispose of the contents/containers in accordance with the current legislation on waste treatment
Supplementary information:
 EUH208: Contains d-Limonene, Hydrocarbons, terpene processing by-products. May produce an allergic reaction
- 2.3 Other hazards:**
 Non-applicable

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1 Substance:**
 Non-applicable
- 3.2 Mixture:**
Chemical description: Miscellaneous products
Components:
 In accordance with Annex II of Regulation (EC) nº1907/2006 (point 3), the product contains:

- CONTINUED ON NEXT PAGE -

BRIVAL FK

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS (continue)

Identification	Chemical name/Classification	Concentration
CAS: 160875-66-1 EC: Non-applicable Index: Non-applicable REACH Non-applicable	Fatty alcohol ethoxylated Self-classified Regulation 1272/2008 Acute Tox. 4: H302; Eye Dam. 1: H318 - Danger	2,5 - <10 %
CAS: 5064-31-3 EC: 225-768-6 Index: 607-620-00-6 REACH 01-2119519239-36-XXX	Trisodium nitrilotriacetate ATP ATP01 Regulation 1272/2008 Acute Tox. 4: H302; Carc. 2: H351; Eye Irrit. 2: H319 - Warning	2,5 - <10 %
CAS: 111-76-2 EC: 203-905-0 Index: 603-014-00-0 REACH 01-2119475108-36-XXX	2-butoxyethanol ATP CLP00 Regulation 1272/2008 Acute Tox. 4: H302+H312+H332; Eye Irrit. 2: H319; Skin Irrit. 2: H315 - Warning	1 - <2,5 %
CAS: 63449-41-2 EC: 264-151-6 Index: 612-140-00-5 REACH Non-applicable	Quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides ATP CLP00 Regulation 1272/2008 Acute Tox. 4: H302+H312; Aquatic Acute 1: H400; Skin Corr. 1B: H314 - Danger	1 - <2,5 %
CAS: 68956-56-9 EC: 273-309-3 Index: Non-applicable REACH 01-2119980606-28-XXX	Hydrocarbons, terpene processing by-products Self-classified Regulation 1272/2008 Aquatic Chronic 2: H411; Asp. Tox. 1: H304; Eye Irrit. 2: H319; Flam. Liq. 3: H226; Skin Irrit. 2: H315; Skin Sens. 1B: H317 - Danger	<1 %
CAS: 5989-27-5 EC: 227-813-5 Index: 601-029-00-7 REACH 01-2119529223-47-XXX	d-Limonene ATP CLP00 Regulation 1272/2008 Aquatic Acute 1: H400; Aquatic Chronic 1: H410; Flam. Liq. 3: H226; Skin Irrit. 2: H315; Skin Sens. 1: H317 - Warning	<1 %

To obtain more information on the risk of the substances consult sections 8, 11, 12 and 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures:

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

By inhalation:

This product does not contain substances classified as dangerous for inhalation, however, in case of symptoms of intoxication remove the person affected from the exposure area and provide with fresh air. Seek medical attention if the symptoms get worse or persist.

By skin contact:

In case of contact it is recommended to clean the affected area thoroughly with water and neutral soap. In case of modifications on the skin (stinging, redness, rashes, blisters,...), seek medical advice with this Security Data Sheet

By eye contact:

This product does not contain substances classified as dangerous for eye contact. Rinse eyes thoroughly for at least 15 minutes with lukewarm water, ensuring that the person affected does not rub or close their eyes.

By ingestion/aspiration:

Do not induce vomiting, but if it does happen keep the head up to avoid inhalation. Keep the person affected at rest. Rinse out the mouth and throat, as they may have been affected during ingestion.

4.2 Most important symptoms and effects, both acute and delayed:

Acute and delayed effects are indicated in sections 2 and 11.

4.3 Indication of any immediate medical attention and special treatment needed:

Non-applicable

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media:

Product is non-flammable under normal conditions of storage, manipulation and use. In the case of inflammation as a result of improper manipulation, storage or use preferably use polyvalent powder extinguishers (ABC powder), in accordance with the Regulation on fire protection systems. IT IS NOT RECOMMENDED to use tap water as an extinguishing agent.

5.2 Special hazards arising from the substance or mixture:

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

5.3 Advice for firefighters:

- CONTINUED ON NEXT PAGE -

BRIVAL FK

SECTION 5: FIREFIGHTING MEASURES (continue)

Depending on the magnitude of the fire it may be necessary to use full protective clothing and individual respiratory equipment. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...) in accordance with Directive 89/654/EC.

Additional provisions:

Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Destroy any source of ignition. In case of fire, refrigerate the storage containers and tanks for products susceptible to inflammation, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Isolate leaks provided that there is no additional risk for the people performing this task. Personal protection equipment must be used against potential contact with the spilled product (See section 8). Evacuate the area and keep out those who do not have protection.

6.2 Environmental precautions:

Avoid at all cost any type of spillage into an aqueous medium. Contain the product absorbed appropriately in hermetically sealed containers. Notify the relevant authority in case of exposure to the general public or the environment.

6.3 Methods and material for containment and cleaning up:

It is recommended:

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A.- Precautions for safe manipulation

Comply with the current legislation concerning the prevention of industrial risks. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

B.- Technical recommendations for the prevention of fires and explosions

Product is non-flammable under normal conditions of storage, manipulation and use. It is recommended to transfer at slow speeds to avoid the generation of electrostatic charges that can affect flammable products. Consult section 10 for information on conditions and materials that should be avoided.

C.- Technical recommendations to prevent ergonomic and toxicological risks

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

Due to the danger of this product for the environment it is recommended to use it within an area containing contamination control barriers in case of spillage, as well as having absorbent material in close proximity.

7.2 Conditions for safe storage, including any incompatibilities:

A.- Technical measures for storage

Minimum Temp.:	5 °C
Maximum Temp.:	30 °C
Maximum time:	24 Months

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

7.3 Specific end use(s):

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

- CONTINUED ON NEXT PAGE -

BRIVAL FK

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continue)

8.1 Control parameters:

Substances whose occupational exposure limits have to be monitored in the work environment

Identification	Environmental limits		
	IOELV (8h)	20 ppm	98 mg/m ³
2-butoxyethanol CAS: 111-76-2 EC: 203-905-0	IOELV (STEL)	50 ppm	246 mg/m ³
	Year	2014	

DNEL (Workers):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Trisodium nitrilotriacetate CAS: 5064-31-3 EC: 225-768-6	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Inhalation	9,6 mg/m ³	Non-applicable	3,2 mg/m ³	Non-applicable
2-butoxyethanol CAS: 111-76-2 EC: 203-905-0	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	89 mg/kg	Non-applicable	75 mg/kg	Non-applicable
	Inhalation	663 mg/m ³	246 mg/m ³	98 mg/m ³	Non-applicable
Hydrocarbons, terpene processing by-products CAS: 68956-56-9 EC: 273-309-3	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	0,8 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	2,9 mg/m ³	Non-applicable
d-Limonene CAS: 5989-27-5 EC: 227-813-5	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Inhalation	Non-applicable	Non-applicable	33,3 mg/m ³	Non-applicable

DNEL (General population):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Trisodium nitrilotriacetate CAS: 5064-31-3 EC: 225-768-6	Oral	0,9 mg/kg	Non-applicable	0,3 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Inhalation	2,4 mg/m ³	Non-applicable	0,8 mg/m ³	Non-applicable
2-butoxyethanol CAS: 111-76-2 EC: 203-905-0	Oral	13,4 mg/kg	Non-applicable	3,2 mg/kg	Non-applicable
	Dermal	44,5 mg/kg	Non-applicable	38 mg/kg	Non-applicable
	Inhalation	426 mg/m ³	123 mg/m ³	49 mg/m ³	Non-applicable
Hydrocarbons, terpene processing by-products CAS: 68956-56-9 EC: 273-309-3	Oral	Non-applicable	Non-applicable	0,3 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	0,3 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	0,7 mg/m ³	Non-applicable
d-Limonene CAS: 5989-27-5 EC: 227-813-5	Oral	Non-applicable	Non-applicable	4,76 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Inhalation	Non-applicable	Non-applicable	8,33 mg/m ³	Non-applicable

PNEC:

Identification				
Trisodium nitrilotriacetate CAS: 5064-31-3 EC: 225-768-6	STP	270 mg/L	Fresh water	0,93 mg/L
	Soil	Non-applicable	Marine water	0,093 mg/L
	Intermittent	0,8 mg/L	Sediment (Fresh water)	Non-applicable
	Oral	Non-applicable	Sediment (Marine water)	Non-applicable
2-butoxyethanol CAS: 111-76-2 EC: 203-905-0	STP	463 mg/L	Fresh water	8,8 mg/L
	Soil	3,13 mg/kg	Marine water	0,88 mg/L
	Intermittent	9,1 mg/L	Sediment (Fresh water)	34,6 mg/kg
	Oral	20 g/kg	Sediment (Marine water)	Non-applicable
Hydrocarbons, terpene processing by-products CAS: 68956-56-9 EC: 273-309-3	STP	6,4 mg/L	Fresh water	0,0021 mg/L
	Soil	0,11 mg/kg	Marine water	0,00021 mg/L
	Intermittent	0,021 mg/L	Sediment (Fresh water)	0,542 mg/kg
	Oral	13,1 g/kg	Sediment (Marine water)	0,0542 mg/kg

- CONTINUED ON NEXT PAGE -

BRIVAL FK

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continue)

Identification				
d-Limonene	STP	1,8 mg/L	Fresh water	0,0054 mg/L
CAS: 5989-27-5	Soil	0,262 mg/kg	Marine water	0,00054 mg/L
EC: 227-813-5	Intermittent	Non-applicable	Sediment (Fresh water)	1,32 mg/kg
	Oral	3,33 g/kg	Sediment (Marine water)	0,13 mg/kg

8.2 Exposure controls:

A.- General security and hygiene measures in the work place

As a preventative measure it is recommended to use basic Personal Protection Equipment, with the corresponding <<CE marking>> in accordance with Directive 89/686/EC. For more information on Personal Protection Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1.

All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.

B.- Respiratory protection

The use of protection equipment will be necessary if a mist forms or if the professional exposure limits are exceeded.

C.- Specific protection for the hands

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory hand protection	Chemical protective gloves		EN 374-1:2003 EN 374-3:2003/AC:2006 EN 420:2003+A1:2009	Replace the gloves at any sign of deterioration.

D.- Ocular and facial protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory face protection	Panoramic glasses against liquid splash		EN 166:2001 EN 172:1994/A1:2000 EN 172:1994/A2:2001 EN ISO 4007:2012	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing.

E.- Bodily protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
	Work clothing		EN ISO 13688:2013	For professional use only.
	Anti-slip work shoes		EN ISO 20347:2012 EN ISO 20344:2011	None

F.- Additional emergency measures

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2002	 Eyewash stations	DIN 12 899 ISO 3864-1:2002

Environmental exposure controls:

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

Volatile organic compounds:

With regard to Directive 2010/75/EU, this product has the following characteristics:

- V.O.C. (Supply): 3,62 % weight
- V.O.C. density at 20 °C: 38,73 kg/m³ (38,73 g/L)
- Average carbon number: 6,97

- CONTINUED ON NEXT PAGE -

BRIVAL FK

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continue)

Average molecular weight: 120,68 g/mol

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

For complete information see the product datasheet.

Appearance:

Physical state at 20 °C:	Liquid
Appearance:	Transparent
Color:	Reddish
Odor:	Characteristic

Volatility:

Boiling point at atmospheric pressure:	103 °C
Vapour pressure at 20 °C:	2322 Pa
Vapour pressure at 50 °C:	12232 Pa (12 kPa)
Evaporation rate at 20 °C:	Non-applicable *

Product description:

Density at 20 °C:	1060 - 1080 kg/m ³
Relative density at 20 °C:	1069,99 - 1070,01
Dynamic viscosity at 20 °C:	Non-applicable *
Kinematic viscosity at 20 °C:	Non-applicable *
Kinematic viscosity at 40 °C:	Non-applicable *
Concentration:	Non-applicable *
pH:	8 - 9 to 1 %
Vapour density at 20 °C:	Non-applicable *
Partition coefficient n-octanol/water 20 °C:	Non-applicable *
Solubility in water at 20 °C:	Non-applicable *
Solubility properties:	Non-applicable *
Decomposition temperature:	Non-applicable *
Melting point/freezing point:	Non-applicable *

Flammability:

Flash Point:	Non Flammable (>60 °C)
Autoignition temperature:	237 °C
Lower flammability limit:	Non-applicable *
Upper flammability limit:	Non-applicable *

9.2 Other information:

Surface tension at 20 °C:	Non-applicable *
Refraction index:	Non-applicable *

*Not relevant due to the nature of the product, not providing information property of its hazards.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

No hazardous reactions are expected if the following technical instructions storage of chemicals. See section 7.

10.2 Chemical stability:

Chemically stable under the conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:

- CONTINUED ON NEXT PAGE -

BRIVAL FK

SECTION 10: STABILITY AND REACTIVITY (continue)

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Not applicable	Precaution	Not applicable

10.5 Incompatible materials:

Acids	Water	Combustive materials	Combustible materials	Others
Not applicable	Not applicable	Avoid direct impact	Not applicable	Not applicable

10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO₂), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

The experimental information related to the toxicological properties of the product itself is not available

Contains glycols. With possibility of effects that are hazardous to the health, it is recommended not to breathe the vapours for long periods of time.

Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than recommended by the occupational exposure limits, it may result in adverse effects on health depending on the means of exposure:

A.- Ingestion:

- Acute toxicity: Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous for consumption. For more information see section 3.
- Corrosivity/Irritability: The consumption of a considerable dose can cause irritation in the throat, abdominal pain, nausea and vomiting.

B- Inhalation:

- Acute toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for inhalation. For more information see section 3.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met, however it does contain substances classified as dangerous for this effect. For more information see section 3.

C- Contact with the skin and the eyes:

- Contact with the skin: Produces skin inflammation.
- Contact with the eyes: Produces eye damage after contact.

D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

- Carcinogenicity: Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous with carcinogenic effects. For more information see section 3.
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
- Reproductive toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

E- Sensitizing effects:

- Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous with sensibilizing effects. For more information see section 3.
- Cutaneous: Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous with sensibilizing effects. For more information see section 3.

F- Specific target organ toxicity (STOT)-time exposure:

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

G- Specific target organ toxicity (STOT)-repeated exposure:

- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

H- Aspiration hazard:

- CONTINUED ON NEXT PAGE -

BRIVAL FK

SECTION 11: TOXICOLOGICAL INFORMATION (continue)

Based on available data, the classification criteria are not met, however it does contain substances classified as dangerous for this effect. For more information see section 3.

Other information:

Non-applicable

Specific toxicology information on the substances:

Identification	Acute toxicity		Genus
	Route	Dose	
2-butoxyethanol CAS: 111-76-2 EC: 203-905-0	LD50 oral	500 mg/kg	Rat
	LD50 dermal	1100 mg/kg	Rat
	LC50 inhalation	11 mg/L (4 h)	Rat
d-Limonene CAS: 5989-27-5 EC: 227-813-5	LD50 oral	4400 mg/kg	Rat
	LD50 dermal	5100 mg/kg	Rabbit
	LC50 inhalation	Non-applicable	
Trisodium nitrilotriacetate CAS: 5064-31-3 EC: 225-768-6	LD50 oral	686 mg/kg	Mouse
	LD50 dermal	Non-applicable	
	LC50 inhalation	Non-applicable	
Fatty alcohol ethoxylated CAS: 160875-66-1 EC: Non-applicable	LD50 oral	500 mg/kg (ATEi)	
	LD50 dermal	Non-applicable	
	LC50 inhalation	Non-applicable	
Quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides CAS: 63449-41-2 EC: 264-151-6	LD50 oral	600 mg/kg	Rat
	LD50 dermal	1560 mg/kg	Rat
	LC50 inhalation	Non-applicable	

SECTION 12: ECOLOGICAL INFORMATION

The experimental information related to the eco-toxicological properties of the product itself is not available

12.1 Toxicity:

Identification	Acute toxicity		Specie	Genus
	Route	Dose		
Trisodium nitrilotriacetate CAS: 5064-31-3 EC: 225-768-6	LC50	240,4 mg/L (96 h)	Carassius auratus	Fish
	EC50	950 mg/L (24 h)	Daphnia magna	Crustacean
	EC50	510 mg/L (120 h)	Microcystis aeruginosa	Algae
2-butoxyethanol CAS: 111-76-2 EC: 203-905-0	LC50	1490 mg/L (96 h)	Lepomis macrochirus	Fish
	EC50	1815 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	911 mg/L (72 h)	Pseudokirchneriella subcapitata	Algae
Quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides CAS: 63449-41-2 EC: 264-151-6	LC50	0,85 mg/L (96 h)	Oncorhynchus mykiss	Fish
	EC50	0,12 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	Non-applicable		
Hydrocarbons, terpene processing by-products CAS: 68956-56-9 EC: 273-309-3	LC50	5,07 mg/L (96 h)	Danio rerio	Fish
	EC50	2,1 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	4,8 mg/L (72 h)	Pseudokirchneriella subcapitata	Algae
d-Limonene CAS: 5989-27-5 EC: 227-813-5	LC50	0,702 mg/L (96 h)	Pimephales promelas	Fish
	EC50	0,577 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	Non-applicable		

12.2 Persistence and degradability:

Identification	Degradability		Biodegradability	
	Parameter	Value	Parameter	Value
2-butoxyethanol CAS: 111-76-2 EC: 203-905-0	BOD5	0.71 g O2/g	Concentration	100 mg/L
	COD	2.2 g O2/g	Period	14 days
	BOD5/COD	0.32	% Biodegradable	96 %
Hydrocarbons, terpene processing by-products CAS: 68956-56-9 EC: 273-309-3	BOD5	Non-applicable	Concentration	2 mg/L
	COD	Non-applicable	Period	28 days
	BOD5/COD	Non-applicable	% Biodegradable	83 %

- CONTINUED ON NEXT PAGE -

BRIVAL FK

SECTION 12: ECOLOGICAL INFORMATION (continue)

Identification	Degradability		Biodegradability	
	d-Limonene CAS: 5989-27-5 EC: 227-813-5	BOD5	Non-applicable	Concentration
	COD	Non-applicable	Period	28 days
	BOD5/COD	Non-applicable	% Biodegradable	100 %

12.3 Bioaccumulative potential:

Identification	Bioaccumulation potential	
	2-butoxyethanol CAS: 111-76-2 EC: 203-905-0	BCF
	Pow Log	0,83
	Potential	Low
d-Limonene CAS: 5989-27-5 EC: 227-813-5	BCF	660
	Pow Log	4,83
	Potential	High

12.4 Mobility in soil:

Identification	Absorption/desorption		Volatility	
	2-butoxyethanol CAS: 111-76-2 EC: 203-905-0	Koc	8	Henry
	Conclusion	Very High	Dry soil	No
	Surface tension	27290 N/m (25 °C)	Moist soil	Yes
Quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides CAS: 63449-41-2 EC: 264-151-6	Koc	650000	Henry	Non-applicable
	Conclusion	Immobile	Dry soil	Non-applicable
	Surface tension	Non-applicable	Moist soil	Non-applicable
d-Limonene CAS: 5989-27-5 EC: 227-813-5	Koc	6324	Henry	2,533E+3 Pa·m ³ /mol
	Conclusion	Immobile	Dry soil	Yes
	Surface tension	26750 N/m (25 °C)	Moist soil	Yes

12.5 Results of PBT and vPvB assessment:

Non-applicable

12.6 Other adverse effects:

Not described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

Code	Description	Waste class (Regulation (EU) No 1357/2014)
07 04 04*	Other organic solvents, washing liquids and mother liquors	Dangerous

Type of waste (Regulation (EU) No 1357/2014):

HP14 Ecotoxic, HP7 Carcinogenic

Waste management (disposal and evaluation):

Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC). As under 15 01 (2014/955/EC) of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. We do not recommended disposal down the drain. See paragraph 6.2.

Regulations related to waste management:

In accordance with Annex II of Regulation (EC) n°1907/2006 (REACH) the community or state provisions related to waste management are stated

Community legislation: Directive 2008/98/EC, 2014/955/EU, Regulation (EU) No 1357/2014

SECTION 14: TRANSPORT INFORMATION

Transport of dangerous goods by land:

With regard to ADR 2015 and RID 2015:

- CONTINUED ON NEXT PAGE -

BRIVAL FK

SECTION 14: TRANSPORT INFORMATION (continue)



- 14.1 UN number:** UN3082
14.2 UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Amyl cinnamal)
14.3 Transport hazard class(es): 9
 Labels: 9
14.4 Packing group: III
14.5 Dangerous for the environment: Yes
14.6 Special precautions for user
 Special regulations: 274, 335, 375, 601
 Tunnel restriction code: E
 Physico-Chemical properties: see section 9
 Limited quantities: 5 L
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Non-applicable

Transport of dangerous goods by sea:

With regard to IMDG 37-14:



- 14.1 UN number:** UN3082
14.2 UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Amyl cinnamal)
14.3 Transport hazard class(es): 9
 Labels: 9
14.4 Packing group: III
14.5 Dangerous for the environment: Yes
14.6 Special precautions for user
 Special regulations: 274, 909, 944
 EmS Codes: F-A, S-F
 Physico-Chemical properties: see section 9
 Limited quantities: 5 L
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Non-applicable

Transport of dangerous goods by air:

With regard to IATA/ICAO 2015:



- 14.1 UN number:** UN3082
14.2 UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Amyl cinnamal)
14.3 Transport hazard class(es): 9
 Labels: 9
14.4 Packing group: III
14.5 Dangerous for the environment: Yes
14.6 Special precautions for user
 Physico-Chemical properties: see section 9
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Non-applicable

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

Candidate substances for authorisation under the Regulation (EC) 1907/2006 (REACH): Non-applicable

Substances included in Annex XIV of REACH ("Authorisation List") and sunset date: Non-applicable

Regulation (EC) 1005/2009, about substances that deplete the ozone layer: Non-applicable

Active substances for which a decision of non-inclusion onto Annex I (Regulation (EU) No 528/2012): Non-applicable

REGULATION (EU) No 649/2012, in relation to the import and export of hazardous chemical products: Non-applicable

Limitations to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII, REACH):

- CONTINUED ON NEXT PAGE -

BRIVAL FK

SECTION 15: REGULATORY INFORMATION (continue)

Non-applicable

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of the local circumstances in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Other legislation:

The product could be affected by sectorial legislation

15.2 Chemical safety assessment:

The provider has carried out a chemical safety assessment

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) N° 1907/2006 (Regulation (EC) N° 453/2010)

Modifications related to the previous security card which concerns the ways of managing risks. :

CLP Regulation (EC) n° 1272/2008:

- Hazard statements
- Precautionary statements

Texts of the legislative phrases mentioned in section 2.:

- H315: Causes skin irritation
- H319: Causes serious eye irritation
- H410: Very toxic to aquatic life with long lasting effects

Texts of the legislative phrases mentioned in section 3.:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

CLP Regulation (EC) n° 1272/2008:

- Acute Tox. 4: H302 - Harmful if swallowed
- Acute Tox. 4: H302+H312 - Harmful if swallowed or in contact with skin
- Acute Tox. 4: H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled
- Aquatic Acute 1: H400 - Very toxic to aquatic life
- Aquatic Chronic 1: H410 - Very toxic to aquatic life with long lasting effects
- Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects
- Asp. Tox. 1: H304 - May be fatal if swallowed and enters airways
- Carc. 2: H351 - Suspected of causing cancer
- Eye Dam. 1: H318 - Causes serious eye damage
- Eye Irrit. 2: H319 - Causes serious eye irritation
- Flam. Liq. 3: H226 - Flammable liquid and vapour
- Skin Corr. 1B: H314 - Causes severe skin burns and eye damage
- Skin Irrit. 2: H315 - Causes skin irritation
- Skin Sens. 1: H317 - May cause an allergic skin reaction
- Skin Sens. 1B: H317 - May cause an allergic skin reaction

Advice related to training:

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

- <http://esis.jrc.ec.europa.eu>
- <http://echa.europa.eu>
- <http://eur-lex.europa.eu>

Abbreviations and acronyms:

- ADR: European agreement concerning the international carriage of dangerous goods by road
- IMDG: International maritime dangerous goods code
- IATA: International Air Transport Association
- ICAO: International Civil Aviation Organisation
- COD: Chemical Oxygen Demand
- BOD5: 5-day biochemical oxygen demand
- BCF: Bioconcentration factor
- LD50: Lethal Dose 50
- CL50: Lethal Concentration 50
- EC50: Effective concentration 50
- Log-POW: Octanol-water partition coefficient
- Koc: Partition coefficient of organic carbon

- CONTINUED ON NEXT PAGE -

BRIVAL FK

The information contained in this security data sheet is based on sources, technical knowledge and current legislation at European and state level, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product, it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within our awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this security data sheet only refers to this product, which should not be used for needs other than those specified.

- END OF SAFETY DATA SHEET -